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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/666,300	09/21/2000	Raymond Freymann	951/48943	8406

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EXAMINER

MICHALSKI, JUSTIN I

ART UNIT	PAPER NUMBER
2644	15

DATE MAILED: 06/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/666,300

Applicant(s)

FREYMAN ET AL.

Examiner

Justin Michalski

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment to the claims filed on 7 April 2004 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 5 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation "said input signal" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim 9 recites the limitation "said output sound components signals" in lines 9 and 10. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Miller (US Patent 5,237,617).

Regarding Claim 1, Miller claims a device (Fig. 1) for electroacoustic sound generation in a motor vehicle, said device comprising: a sound pressure sensor (vacuum 23, exhaust 24, Miller discloses each detector is designed to produce an output indicative of the operating state of the vehicle component to which it is connected, i.e. sound pressure sensor) (Column 3, lines 25-28) positioned proximal to or within one of an intake tract and an exhaust tract of the motor vehicle (vacuum 23 connected to a vacuum line, exhaust 24 connected to exhaust system) (Column 3, lines 37-40); a signal processing unit (references 11,12, 32, 37, 38, 42, and 43) connected to and receives an output of said sound pressure sensor (references 26 and 27); a loudspeaker unit (speaker 53) having at least one loud speaker wherein said loudspeaker unit is connected to said signal processing unit (leads 49 and 51), a synthesizer (synthesizer 32) connected with or integral with said signal processing unit said synthesizer outputting a synthetic sound components signal to a device (device 32) for adding said synthesizer output signal to said output of said sound pressure sensor (signal 28 added at synthesizer 32, Miller discloses signal 28 is a function of pressure sensors 23 and 24) (Column 3, lines 56-58).

Regarding Claim 2, Miller further discloses said synthesizer providing at least one sinusoidal frequency that is a function of an engine speed of said motor vehicle. (Miller discloses that synthesizer 32 with analyzer 11 produce the sounds which emulate sounds of the engine and exhaust of a motor vehicle (Column 4, lines 15-22). Miller further discloses pitch increases with RPM (i.e. engine speed) (Column 4, lines

16-28). It is inherent that the pitch outputted contains a frequency or a sum of frequencies made of sinusoidal frequency components.)

Regarding Claim 3, Miller further discloses a memory unit (converter 43) containing values for at least one of amplitudes and phases of sinusoidal oscillations as a function of the engine speed (Converter 43 will inherently store, for a period of time, the amplitude and phase of the sound output (i.e. sinusoidal oscillations) to speaker 53).

Regarding Claim 4, Miller discloses a synthesizer (synthesizer 32) that includes at least an input for input signals indicating at least one of throttle position (reference 16), accelerator pedal position, and input parameters of corresponding signals (reference 21) and wherein at least one of the amplitude and sound characteristics of signals generated by the synthesizer are variable as a function of said input signals (Miller discloses the analyzer interprets inputs from the sensors (i.e. function of inputs) and generates controlling signals for a synthesis subsystem) (Column 2, lines 19-21).

Regarding Claim 5, Miller discloses a device as in Claim 1 wherein said synthesizer (reference 32) is connected to receive a signal (reference 28) as a function of the detected sound pressure amplitude and wherein at least one of the amplitude and sound characteristics of the signal output by said synthesizer is varied as a function of said input signal (Miller discloses signal 28 is produced and indicative of engine operating conditions including pressure amplitude of sensors 23 and 24) (Column 3, lines 56-62).

Regarding Claim 6, Miller further discloses a synthesizer (synthesizer 32) which outputs a predefined sound in response to an indication of a thrust operation (sensors

13, 14, 16, 17, 23, and 24 sense thrust operation) of a motor vehicle (Miller discloses processor 37 and chip 38 supplies synthesizer 32 with signals (Column 4, lines 11-18) which may contain pre-recorded (i.e. predefined) sounds (Column 4, lines 54-57).

Regarding Claim 7, Miller further discloses said signal processing unit includes a filter unit (analyzer 11) for filtering a signal from said sound pressure sensor (sensors 23 and 24) and wherein said filter provides an output (signal 28) which changes the sound characteristic of sound detected by said sound pressure sensor (Miller discloses analyzer 11 receives several signal inputs (including from sensors 23 and 24) and combines and analyzes them (i.e. filters) to produce output 28) (Column 3, lines 56-58).

Regarding Claim 8, Miller claims a device (Fig. 1) for electroacoustic sound generation in a motor vehicle, said device comprising: a sound pressure sensor (vacuum 23, exhaust 24, Miller discloses each detector is designed to produce an output indicative of the operating state of the vehicle component to which it is connected, i.e. sound pressure sensor) (Column 3, lines 25-28) positioned proximal to or within one of an intake tract and an exhaust tract of the motor vehicle (vacuum 23 connected to a vacuum line, exhaust 24 connected to exhaust system) (Column 3, lines 37-40); a signal processing unit (references 11, 12, 32, 37, 38, 42, and 43) connected to and receives an output of said sound pressure sensor (references 26 and 27); a loudspeaker unit (speaker 53) having at least one loud speaker wherein said loudspeaker unit is connected to said signal processing unit (leads 49 and 51); a synthesizer (synthesizer 32) connected with or integral with said signal processing unit whereby synthetic sound components (signals 34 and 36) are added to said signal

generated from said sound pressure sensor (signal 28) at reference 32. Miller further discloses said signal processing unit includes a means (analyzer 11) for mixing the sound from said sound pressure sensor and from said synthesizer as a function of operational parameters of said motor vehicle (Miller discloses analyzer 11 combines input signals (including sound signals from sensors 23 and 24) and combines them to produce an output 28 (Column 3, lines 56-58) which is a function of the operational parameters of the input signals. Signal 28 is then added to synthesizer 32.)

Regarding Claim 9, Miller claims an electroacoustic sound generator for a motor vehicle (Fig. 1) comprising: a sound pressure sensor (vacuum 23, exhaust 24, Miller discloses each detector is designed to produce an output indicative of the operating state of the vehicle component to which it is connected, i.e. sound pressure sensor) (Column 3, lines 25-28) positioned in the vicinity of or within the intake tract or the exhaust tract of the motor vehicle (vacuum 23 connected to a vacuum line, exhaust 24 connected to exhaust system)(Column 3, lines 37-40); a signal processing unit (references 11,12, 32, 37, 38, 42, and 43) having a first input for receiving an output of said sound pressure sensor (references 26 and 27) and a second input for receiving a rotational speed signal (reference 17) from said motor vehicle, said signal processing unit comprising a synthesizer (37 and 38) for outputting synthetic sound components signals (24 and 36) and said signal processing unit further including a device (32) for adding said output sound components signals (34 and 36) to output signals generated from said sound pressure sensor (signal 28 is a function of pressure sensors 23 and 24)

(Column 3, lines 56-58); and a loudspeaker system (references 48, 51, and 53) connected with an output (reference 46) of said signal processing unit.


Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Michalski whose telephone number is (703)305-5598. The examiner can normally be reached on 8 Hours, 5 day/week.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Isen can be reached on (703)305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JIM


FORESTER W. ISEN
SUPERVISORY PATENT EXAMINER